805. *Nitric acid.*—Some pure nitric acid was boiled to drive off all the nitrous acid, and then cooled. Being included in the circuit by platinum plates (801), it was found to conduct so badly that the effect of the antimony-bismuth pair, when the difference of temperature was at the greatest, was scarcely perceptible at the galvanometer.

806. On using a pale yellow acid, otherwise pure, it was found to possess rather more conducting power than the former. On employing a red nitric acid, it was found to conduct the thermo current very well. On adding some of the green nitrous acid (804) to the colourless nitric acid, the mixture acquired high conducting powers. Hence it is evident that nitric acid is^ not a good conductor when pure, but that the presence of nitrous acid in it (conjointly probably with water) gives it this power in a very high degree amongst electrolytes.[1] A very-red strong nitric acid, and a weak green acid (consisting of one volume strong nitric acid and two volumes of water, which had been rendered green by the action of the negative platinum electrode of a voltaic battery), were both such excellent conductors that the thermo current could pass across five separate portions of them connected by platinum plates, with so little retardation, that I believe twenty interruptions would not have stopped this feeble current.

807. *Sulphuric add.*—Strong oil of vitriol, when between platinum electrodes (801), conducted the antimony-bismuth thermo current sensibly, but feebly. A mixture of two volumes acid and one volume water conducted much better, but not nearly so well as the two former electrolytes (802, 804). A mixture of one volume of oil of vitriol and two volumes saturated solution of sulphate of copper conducted this feeble current very fairly.

Polassa.—K strong solution of caustic potassa, between platinum plates, conducted the thermo current sensibly, but very feebly.

808. I will take the liberty of describing here, as ^the most convenient place, other results relating to the conducting power of bodies, which will be required hereafter in these investigations. Galena, yellow sulphuret of iron, arsenical pyrites, native

sulphuret of copper and iron, native grey artificial sulphuret of

» Sehu-ubfin's experiments on a compound of nitric and nitrous acids will probably bear upon and illustrate this subject.—Bibliotheque Umver-